THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KENDALL S. WILLS and PAUL A. RODRIGUEZ

Appeal No. 95-0675
Application No. 08/070,487[1]

ON BRIEF

Before KIMLIN, PAK and WARREN, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

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[1] Application for patent filed June 2, 1993. According to appellants, this application is a continuation of Application No. 07/692,088, filed April 26, 1991, now abandoned.

This is an appeal from the final rejection of claims 20 and 23-31, all the claims remaining in the present application. Claim 20 is illustrative:

20. A method of making a laser beam programmable semiconductor device, comprising the steps of:

forming a semiconductor body;

forming a shallow tank of conductivity type in said semiconductor body, said shallow tank being of conductivity type opposite that of said body;

forming a first PN junction in said shallow tank; forming a second PN junction in said shallow tank, said second PN junction being spaced from said first PN junction; and irradiating exclusively a programming area within one and only one of said PN junctions with a laser beam, said PN junction being permanently altered by the laser beam.

In addition to the admitted prior art found in appellants' specification, the examiner relies upon the following references in the rejection of the appealed claims:

Aswell et al. (Aswell)	4,387,503	June 14, 1983
Wills et al. (U.S. '729)	5,008,729	Apr. 16, 1991
Aswell et al. (Aswell '184) (U.S. patent application)	07/233,184	Jan. 1984
Willis et al. (Japanese '654) (Japanese Kokai application)	61-81654	Apr. 25, 1986

Appellants' claimed invention is directed to a method of making a laser beam programmable semiconductor device wherein damage produced by the laser beam causes a PN junction to be

permanently altered. The method includes forming first and second PN junctions in a shallow tank of conductivity opposite that of the semiconductor body, "and irradiating exclusively a programming area within one and only one of said PN junctions with a laser beam."

Appealed claims 20 and 23-31 stand rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Japanese '654 (equivalent to U.S. '729) and under 35 U.S.C. § 102(c) and (g) as being anticipated by U.S. Application 07/233,184, now abandoned.[2] Claims 20 and 23-31 also stand rejected under 35 U.S.C. § 103 as being unpatentable over Aswell in view of the admitted prior art.

Upon careful consideration of the opposing arguments presented on appeal, we will not sustain the examiner's rejections. Our reasoning follows.

We consider first the rejection of the appealed claims under § 102 over U.S. '729. The examiner relies upon Figures 4 and 5 of the reference for depiction of laser irradiating

[2] Since there is general agreement between the examiner and appellants that Japanese '654, U.S. '729 and the abandoned application provide identical disclosures, we will limit our discussion to U.S. '729.

programming area 25 between PN junctions 14a and 14b. However, the appealed claims require the exclusive irradiation within one and only one of the two PN junctions, and we agree with appellants that the reference does not describe such within the meaning of § 102. The examiner reasons at page 6 of the Answer that "'irradiating exclusively a programming area within one and only one of said PN junctions' does not preclude irradiation of a second programming area containing a second PN junction," as in the case of the reference where two PN junctions are irradiated. However, although the "comprising" language of the appealed claims "opens" the claims to a second irradiation step, the claims nevertheless require that the recited irradiation step be performed exclusively within one and only one of said PN junctions. Inasmuch as the reference irradiation exposes two PN junctions, 14a and 14b, the claim requirement is not described by the reference.

We now turn to the examiner's § 103 rejection of the appealed claims over Aswell in view of the admitted prior art. Aswell discloses programming a semiconductor device by damaging an area with a laser. However, Aswell does not teach

or suggest a semiconductor device comprising a shallow tank of opposite conductivity to the semiconductor body wherein the shallow tank contains first and second PN junctions. Figure 1 of the present specification, the admitted prior art relied upon by the examiner, depicts a shallow tank formed in a semiconductor body having first and second PN junctions. However, there is no teaching or suggestion in the admitted prior art of irradiating a programming area within one of the PN junctions. Hence, since there is no teaching or suggestion in either Aswell or the admitted prior art, considered singularly or collectively, to modify Aswell by providing a shallow tank comprising first and second PN junctions, or of submitting the device of the admitted prior art to the claimed exclusive irradiation of a programming area within one and only one of the PN junctions, we must conclude that the examiner's legal conclusion of obviousness is based upon an impermissible hindsight of appellants' specification. Accordingly, we will not sustain the examiner's § 103 rejection.

In conclusion, based on the foregoing, the examiner's decision rejecting the appealed claims is reversed.

REVERSED

EDWARD C. KIMLIN Administrative Patent Judge	)	
CHUNG K. PAK Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
CHARLES F. WARREN Administrative Patent Judge	)	

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